Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Record Book No. 5
Notebook, 16-00-00.3

This undated notebook was used by Edison, probably during February 1916, for notes on the composition and application of varnish surfaces used for disc records. Included are notes describing a sequence of experiments numbered from 186E to 271E; the entries for experiments 263E-270E have been crossed out, and some earlier entries are marked "cancelled." Some experiments involve disc records returned to the factory because of cracks. Other entries indicate the results obtained from varying the ingredients and proportions in the varnish applied, as well as varying the heat and the processes for baking, cooling, and dipping. The summary of results usually provides a tally of acceptable and unacceptable record surfaces obtained. Some of the notes are in the form of instructions to Sherwood T. (Sam) Moore, Ludwig F. (Louis) Ott, or other employees. Inserted into the book are several loose items by Edison, including a table generalizing the results of some of the experiments between 190E and 227E. The front cover is labeled "Disc 5." The pages are unnumbered. Approximately 130 pages have been used.

186E

Moore to get 100 returned Records just as they come out for Cracks only

Then will test for dushing + what kind of record + also knotch the edges of the uncracked side

Cracking
It is due to strains
in the Varnish —
More than anything else

100 Relwoned Re.			
Old Condensite		Shellac	Creosol
1 flat Ck	both sides	1 side -	
Shellac Ckd	1 side	Slight peel.	very little dish
Shellac "	1 "	———	Dished .024
Shellac	1 "	———	flat —
Condensite	1 "	———	dished .017
Condensite	1 "	very worn	fairly flat —
"	1 "	———	fairly flat.
Condensite	1 "	———	slight dish .010
Condensite	both sides		.031 dished
Condensite		Put aside	———
Soft Phenol —	both sides		flat.
Shellac	1 side —		flat.
Shellac	1 side	Set aside —	flat.
Old Phenol	1 side -	peeled 3 years	flat.
Shellac	unused	in handling	———
Condensite	1 side		.026 - dished
Shellac	1 side	starting to peel.	flat.
Condensite.	1 side		.022 dish
Phenol	1 side	Not tested	flat
Condensite	1 side		.020 —
Shellac	1 side		flat
Condensite	1 side.		.015
Shellac	1 side -		.018
Phenol	1 side -	Start to peel edge	.020

All on Concave side

Condensite	1 side	Ckd clear across Very much worn	flat
Shellac	1 "	2 1/4" cks music	flat
Considerate	1 "	Ckd on smooth set aside —	
Shellac	1 "	Played long while —	flat
Shellac	1 "	Reprint	flat
Shellac	1 "	Set aside —	
Condensite	1 side	—	fairly flat
Shellac	1 "		flat
Condensite	1 "		010
Condensite	Both Sides	Not noted	flat
Shellac	1 side		020
Shellac	1 "		010
Shellac	1 "		fair
Shellac	1 "		flat
Shellac	1 "		flat
Shellac	1 "		flat
Condensite	1 "	small ck in music	flat
Shellac	1 "	" checks	flat
Shellac	1 "	Small checks	flat
Shellac	1 "	Cracked music	flat
Shellac	1 "	in music	flat
Shellac	1 "	in Music	flat
Shellac	1 "	Clear across music into label	flat
Condensite	1 "	Enormous number 3" cks	fairly flat

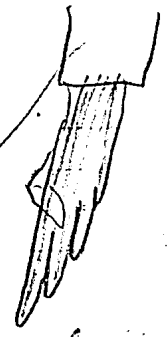
All ckd on Concave side

Condensite		Set aside —	
Considerate	1 side	checks around smooth edge	060
Considerate	1 "	Long Crack edge to label	flat
Condensite		Set aside —	
Condensite	both	Checks long crooks in	040
Condensite	1 side	⌣ in margin ck	010
Condensite	Both	Margin	024
Shellac	1 side	3/4" in from edge several	012
Shellac	1 "	small crack in music	flat
Shellac	—	Set aside —	
Shellac	1 side	big irregular ck music	027
Condensite	1 "	Circular Cracks —	flat
Cresol	1 "	Ckd in Music	flat
Condensite	1 "	cut edge Cracks run into music small ck in Music	fairly flat
Shellac	1 "	Checks	flat
Shellac	1 "	Like Cks in music all direction	flat
Shellac	1 "	Checks in Music	flat
Shellac	1 "	Check in Music	flat
Condensite	1 "	Ckd around Label	022
— possibly Phenol	—	Set aside —	
Condensite	1 "	Cracked across Music (played considerable)	flat
Condensite	1 "	ck from Label	flat
Condensite	1 "	in Music	010
Condensite	1 "	in Music Cracked on Convex	050
Condensite	1 "	in Music —	flat

All ckd on Concave Except

Condensite	Both	1 side margin other checks in music	flat
Condensite	1 side	all across music Worn second	flat
Condensite	1 "	all across face	flat.
Condensite	1 "	Center out	flat
Condensite	1 "	big ck music	022
Condensite	1 "	Music	flat
Condensite	1 "	almost in Center	flat
Condensite	Both	Margin 1 side music all side	018
Phenol		peels No crax - Cracks by notching	flat.
Condensite	1 side	all way thru music	flat
Shellac	1 "	small checks	flat
Condensite	1 "	ckd thru music	flat
Condensite	1 "	small checks	flat
Condensite	Both	All way across 2 Crax on Convex side - 1 Cx Concave	022
Condensite	1 side	Checks 3/4"	fairly flat
Shellac	1 "	checks	flat
Shellac	1 "	Checks -	flat
Shellac	1 "	Several prominent ckd	flat
Shellac	1 "	Checks	flat
Shellac	1 "	Edge Checks - Cx	fairly flat
Condensite	1 "	Margin Crax.	028
Condensite		Set aside	
Condensite	1 "	checks	flat
Condensite	1 "	Music	022
Condensite	1 "	Circular Edge Cx	fair

Condensite 49
Shellac 39
Phenol 5
Cresol 1/94 Records



8 Cracked both side

Every crack except 2 is on the Concave side when found dished

Flat	51
Concave	26
fairly flat	8
a little	2

Cracked on both sides	8
Small peel	5

010	5
015	1
012	1
018	3
020	3
022	4
024	2
028	2
026	1
030	1
040	1
050	1
060	1

Checks	
Condensite	5
Shellac	9

187-E

Transfer 6 = use 116E Van plates onto 14/12 blanks + print them select as equal flawed plates as possible -

188 E

Louis Ott, pour varnish 20 grams into distillation tubes in an oven and run on safe schedule —

16% Resin 6 free phenol — 6.75 6/4 — + save the distillate + use a part of it to test for phenol. + also for Resin — Pour Etc

189 E

Fred Off to make a wire screen with Edge so it is perfectly level in Ovens & potatoes lay dead horozontal always when showed in Oven

Done

Transfer wrong blank - blank edge of Disc -

Transfd OK - free & release

These veneers were free veneers, & not on a plate - Empty plates used to transfer

Can under run a strip whole veneer off - ~~to~~ dont think it got much pressure on account of Edges of metallic plate taking all the pressure.

One side evidently got more pressure than the other

Could not strip - on 1/4 to 3/4 pieces -

Its Condensed & not horny

I notice the side I could not under run has a part quite horny showing one disc not Condensed probably bad Contact

Veneer Wt .7[redacted] 7440 aft. 7332 1.480% Lost

acts same as 191 Fred Oil - get from 190

190 Effer to 202 In the Tee

Curles most on hot plate on 1220 at 310 pm dents but hard warped bad Chest by 6 or 8 o'clock Wednesday

~~10 grams Reg Resin~~

16 " Alcohol

Broke 90 3 pieces main piece nearly straight break rigid no Crot 025

Lost 100 Mlg Para

10.8 Mlg 100 " Sandrac, Benzol Solubile

1.479% 650 " 6/4

600 " Free Phenol

Run To 235

1st free on plate 4 bubs Top flat very slight wrinkles - flat no raises -

2= free & dished slightly No bubs

3 - slight touch becomes free. no bubbles flat

4 free No bubbles flat

Broke at 40 fully Condensed

on hot plate bend ═ dents Easy dent returns no signs of it

Has good cut.

Veneer Weight .9330

plate side down tends to Curl
Surface under tension.

on 1240 psm at 310 dents ok

Warped only little

Lost 37.9 Milg 4.07 %

Broke 100- Cuts slightly horney
029- Thumb Nails is good

191 E

10 grams Reg Resin
16 " Alcohol
100 Milg Pana
100 " Sandrac Resin of Columbia
625 " 6/4
600 " Free Phenol
235°

1 free no bubs, some wrinkles no lift
2 free " "
3 " " "
4 Not free " "

top in tension

goes 90° no break Returns to 4
Broke 102°
Callipers 034-

Cut semi horning thumb great about right
at 235 for Printing at 350
x dont break

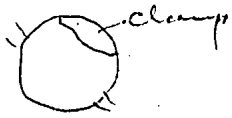
Dont Cure much on hot plate
Weight ~~8008~~ 8080
on at 1240 pm - 310 pm dent ok
Warped only little
Lost 34.2 Mlg - 4.24%
Broke 60 ozz in Cantin
Cuts good - appears very good resin, brake several pieces - may have obtained

192 E

10 grams Reg Resin
16 " Alcohol
100 Mlg Para
100 " Sandrace Benzol soluble
600 " 6/4
600 " free phenol

235°

1 = A touch or its free 1 bubb no lifts some wrinkles
2 Slight jar its free no bubbles no lifts some wrinkles
3 not free - no bubs "
4 A touch then free no bubs no lifts



Broke 35

Tried it again same piece -
Broke at 50 Calipers 031.
Cuts like horn not fully Condensed.
but its OK for pressing
On hot plate : ⟹ x ~~Breaks at X~~
not condensed

Weight ~~7025~~ 7225

on 1240 pm at 310 pm dentsoke

Lost 36. mlg 4.9%

no trail of 6leg

one hot pelate - ——— x breaks at X

not condensed - dents OK

193 E

10 Grams Reg Resin
16 " Alcohol
100 mlg Para
100 " Sandarac Rengol solubile
575 " 6/4
600 " Tyrec phenol

1 = Stick a little had to underrun knife no
no bubs - no lifts - considerable Wallpaper

2 - free - dished a little 3 small top bubs

3 not free underrun a little when it broke
no lifts 3 small top bubs

4 Cant get free - 1 very small top bub -
All are somewhat wrinkled
Brake 25 - breaks straight
Horny Cut not fully Condensed but
will answer for Print probably
would be condensed if Chemicals

[ ] broke at 50 Calliper 037
Brake 5 Crooked

Curls on hot plate considerable

Weight .80265 wrong
on 1240 gm – at 310 gm bends ok
Warped board

after hot plate Weight 8324

Brake 77 – brake dozen pieces
it was much bowed when
flattened to band, Cuts little horny
beet hand 029 025 028

194 E

10 grams Reg Resin
16 " Alcohol
100 Mlg Para
100 " Sandrac Sol'n Benzol
550 " 6/4
600 " free phenol

1 = free dished – dust in Var 2 bubbs

2 free & curled 2 peculiar
internal swellings 1/16 dia each – may be flat bubs
closed tops & bottom, scarcely any wrinkles

3 free slightly dished – 1 bub – no lifts

4 = free on slight touch, considerable wrinkles
no bubbles

Brake 43 Calliper 030
Cuts horny not quite condemned
if 015" would be heavily condemned
Think it ok for present
Brake straight
Hot plate bends ok ⟹ x x don't break

195 Weight .70837 must be wrong probably 8/837

on 1253 pm out 310 pm
tents OK

Warped only little

Weighs 8449 – after

Brake 55 – brake in 4 passes
028 – tinge of hornay

195E

10 Grams Reg resin
16 mily Alcohol
100 mily Para
100 mily Sandrac Benzol 00 Powder
525 mily 6/4
600 mily free phenol

1 = free – slightly dished – some corrugs
1 bub – no lifts

2 free no bubbs – wrinkl – no lifts, flat

3 free – very slight bend, no bubbs wrinkled

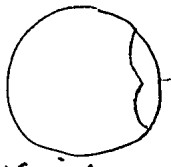
4 Had to underrun, no lifts no bubs, wrinkl

Brake 60 brake slight
Calliper 034
Condensed –
Hot plate – ═══ x break
but I bent it very slight, only hornay
when hot

196 Weight ~~1.0097~~ 1.0971
wt after 0795
On 1258 at 310 pm dents OK
5 pm
Nearly flat

Lost 21.5 mlg
1.6%

Broke 50



clamp

No strains & Chunks
Cuts only a shadow of horny
on thickest, Thin nearly same

196 E

10 grams Reg Resin
16 " Alcohol

100 mlg Para
100 " Dandrac Benzol soluble
500 " 6/4
600 " free phenol

1 free - very slight dish - 3 top micro bubs wrinkle

2 = free - 1 micro top bub - slightly dished

3 free 2 bubbles - top - wrinkle - dished & little

4 - Cant get loose Considerable wrinkle
1 small top bub.

Broke 63 Calliper 031
Condensed, broke nearly straight
Horny cut when hot,

197 - Weight ~~7030~~ 7300
after - 7172

on 1 pm at 310 pm dents ok

Warped bad

lost 128 mlg 1.6%

Curled bad on hot plate, straightened it on hot plate some broke 50
Calliper 013 thin 031 thick.
Outside not horny inside ~~considerable~~ horny

197 E

10 grams Reg Resin
16 " Alcohol

100 mlg Para
100 " Sandrac Regal Sol
475 " 6/4
600 " free phenol

1 = had underrun - shows 1/2" lift - 1 bub bad wrinkles

2 = Had to underrun ok flat. no bubs wrinkle bad

3. Cant get off - bad wrinkles 1 micro bub

4 Cant get off 2 bubs very bad wrinkles

Only 1 free of that already has a 1/2" raise - tested broke at 20 — Calliper 028

break nearly straight
Hard Condensed - Horny when not very flexible -

Cant get off

198E

10 grams Reg Resin
16 " Alcohol

100 Mlg Pana
100 " Sandrac Bengal Solubly
450 " 6/4
600 " Frez Phenol

1 = 3/4 of it was a lift 1 bub + 3 micro bubs
Bad connection

2 Slick - Cant get off - 1 bub - Very bad connection

3 Slick 1 bub 3 micro - Very bad connection

4 Slick - 1 bub Slicks, Cracks badly when
underrun, it had a Crack in it
Bulle -
Cant get cohale one to ~~load~~
Fully Condensed
Nicked, it Cracks - Not straight -

All from 190 to
206 — 78° Room
temp — when tested
for breaking

199E

Done

10 grams Reg Resin
16 " Alcohol

100 Milg Powa
100 " Sandrac Bengal Soap
425 " 6/4
600 " Frac Alcohol

1 = 3 bubs $\frac{1}{32}$ - slick. Can't get off Wrinkles Very Bad

2 Slicks 2 $\frac{1}{16}$ bubs 4 micro Bad wrinkles

3 Slick 2 bubs 1 020 1 010 4 micro
Very bad wrinkles

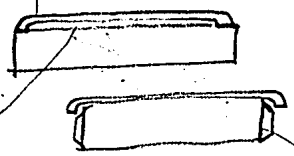
4 awful wrinkles - 2 bubs a Cracks

None loose to test for 6 kg

Room 78°

Transfd Fred ott made blank
same size as plate which was
wrong

should be



This way now
OK

Transfd - 1 ok other side sticks
to Horny + no where near hardened
The good side fried up as no
Contact, — NG not condensed

from this Experiment I believe Horny
Cut stuff Could be Transferred
ok if wanted EVEN without
it,

200 E

Dow

100 grams Reg Resin
16 " Alcohol

100 Mlg Para
100 " Sandrac Benzol Sol
400 " 6/4
600 " Free phenol

1 = Stick 2 bubs Bad wrinks
2 - 1 bub 1 micro Very bad wrinks stick
3 stick 5 small bubs Very bad wrinkled
4 " no bubbles Horribly wrinkled

No Hrg test. stick

Room 78

201 E Room 78 Temp Done to here

10 grams Reg Resin
16 " Alcohol

100 Milg Para
~~use~~ No Sandrac
675 Milg 6/4
600 " Free phenol

1 = No wrinkles, worms only 2 micro bubs
no lifts - free = very slightly dished

2 = slick 2 micro bubs a little wrinkled

3 Considerably wrinkled 2 micro bubs slick

4 " " no bubs slick

Broke .45 -

Callipers .035

Condensed

Very Horny when Hot + Exceedingly flexible -

202 - weight ~~7068~~ 7688
on 1 pm at 310 dents OK
Warped only little.

Weighs = 7553 -

12.7 mlg 1.52 %

Broke 77 -

think it free of strains
nicks give no cracks
022 Center

202 E Room Kept 78 Dam

10 grams Reg Resin
16 " Alcohol

no pama
no Sandrac

6 75 mlg 6/4
600 " free phenol

1 = has lifts very bad wrinkles, sticks to plate
1 bubble

2 sticks a family large bubbles wrinkled and
no lifts

3 lifts sticks plate Very bad wrinkles
no bub.

4 Bad lifts 1 bub stix plate

No Crack test stick

Stick Because
para absent

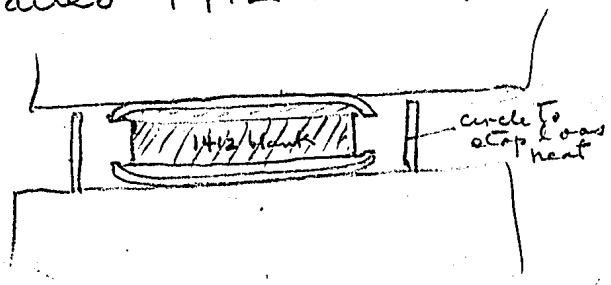
203 E

Done

Fred off – make little fixture if necessary. So I can cut out of blanks small discs & actually make transfers from the little discs to the blank

Must have 80 to 100 lbs steam heat + prevent radiation from Edges –

The blanks to cut the little circles from is called 1412 Blank



Weight ~~8659~~ 8595

on hot plate 1 pm —

Warped only little

5 pm — dents good

off for weighing 6 pm —

on 5 Hours

Lost 26.2 Mlg

3.05%

Brake 67 - Calliper 023

Tinge of horny, hard,

Apparently no atrophy

Nicking gives no Cracks

Thinks its good

204E Room 75

16000

Done

Duplicate of 190

Except input 800 mlg of cocaine in

the 16 grms of Alcohol

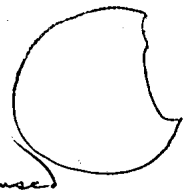
1 = 1 small bub free after cleaning edge 1 bub - a little wrinkled no bufs

2 free — 2 micro very little wrinkles no bufs

3 = Touch-free — 1 micro bub very little wrinkle

4 Sticks 2 micro bubs some wrinkled

Brake 45



Calliper 029

fully Condensed

Exceedingly flexible when hot

Cuts very horny hot.

x doubt bfs

205 E Room 78 Done

Dup of 190 E

Except put 1.200 mlg of water in the 16 grams of alcohol

1 = free no bubbles no bubbles big lift

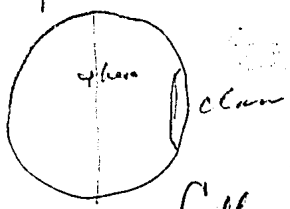
2 Had under neck - no bubbs - No left Considerable currents

3 Big left, sticks - no bubs. wavered

4 - free 2 micro bubs - ~~no left~~ lift

Broke 30 dead straight across

Broke 2 places



Horny not quite Condemned - but ok for parents

Hot bends ——x x broke when very short has horny not hot

Calliper 031

proper blanks - One side
Transfd OK -
Cuts horney - Cant scratch
with nail of finger
Chips out 1/4 to 3/8 - Press dont
heat it hot enough - Cuts
horny on face - Wants
Lampblack dip Varnish
Schedule 15 min Hot - 100 lbs steam
15 min Cool - no radiation req used
This shows Horny Condenser
Can be transferred -

Room 78°

206 E

Done

Dup of 190 Except
put 2 grams of carbon
in the 16 grams of Alcohol

1 = Stuck 8 micro some wrinkles
2 Stuck 3 " "
3 Stuck 4 " "
4 Stuck no bubs "

Cant get off for break coal
Chip shows less Condensed than 205 -
but I think enough Calliperred
the Chip 028

All stuck

190 to 206 — Drying on board
2 hour all even no bubbles
Vital can see in poor light

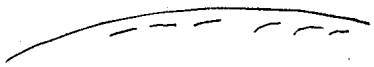
RO	
1	fine
2	good
3	
4	
5	
6	
None	

207 E

Dip 12 blanks in Reg Dip Varnish with 5% Lampblack ground finer, Say Twice Then

Transfd 12 3 lifts Cracked

5 Cracked Var – margin –



squirt out

Print 6 – 5 Cracked on Margin

given away

208

Calliped Record

	High	Low
	240	237
"	248	242
	243	238
	242	235
	249	232
	238	232
	1460	1416
243.3		236

	High	Low	Difference
3% Lampblack	240.7	228.3	12.4
10% "	247.5	236.5	11.0
7½ "	243.3	236	7.3 — Best,

7½ is by far the smoothest record

Perhaps good results of 7½ is due to more even calliped blank & it looks as if uneven blanks would tend to make Run Outs -

208 E

Dup 207 but use 7½ % Lampblack
Dried 2 hours

Transfd 12 — 2 cooked Cauls
3 Lifts Cauls Cracked

Prints 6 — 3 ok - 3 poor prints Cancel

RO
1
2
3
4
5
6
none

Time

quad

Weld ⅟₁₆ chip - Very good

poor print in Illus Expmd.

poor print

poor print

209E

Dup 207 but
Use 10% Lampblack
fine ground

Transfd 12 10 ok 2 left ckd
Prints 6 — 4 ok 2 feedline Cracks

RO 7 min
1
2 good
3
4 |
5 |||
6 ||||
None ||

	Calliper High	Low
1	246	238
2	254	240
3	248	238
4	248	228
5	242	235
6	247	240
247.5	1485	1419 236.5

210 E

Dup 207 - but use 3 x/o Lump & Coarse ground fine -

Transfd 12 7 ok 1 Cooled Cooler 3 Lifts Ckd 1 Mechanical

Prints 6 = 3 feed line Ckd 3 poor print of which 2 Coarse 1 a Dessand

RO	Fine		Caliper High	Caliper Low	
1					
2	good				
3					
4			239	225	
5			240	234	
6			231	227	
None			250	225	
			240	226	
			244	233	
		240.7	1444	1370	228.3

On hot plate - started curl held pencil on 10 sec now flat
Dents good — flexible

x breaks after hot plate 3 hours

Off hot plate a-Cold & Brake it in several pieces don't break straight. it was however considerably cracked

Off

Off

211 E
10 grms Reg Resin
10 grms Alcohol
3 grams of water in alcohol
100 Milg Para
600 " phenol
780 Milg 6/4

3 - 4 - 2 - none microscopic lips bubbles

∴ Molded - moderately

1 = touch loose
2 " "
3 " "
4 Stick some cracked in getting off

023
031
024
022
4)100
.025

2 = brake 43. Cuts hard out brittle soft inside

On hot plate started curl but held pencil 5 sec stays flat.
Dents OK of Coupons

On hot plate 3 hours dont
bend - Cracks on the allanyl

After hot plate & Cooled
Cracks pretty straight

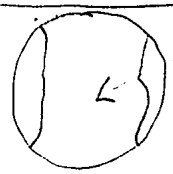
212 E

Off

10 grams Reg Resin
16 " Alcohol
4 " Water
100 Mlg Para
600 " Phenol
780 " 6/4

8 - 6 - 3 - 4 - light tops Bubbles
Molded quite bright

1 Touch free
2 free
3 free
4 Shrink brake un gelling off -

Broke 30 _ 

028 Center
025
023
not known

Cuts little horny - not tri little horny not
quite Condensed

3/76
025.3

On hot plate stays flat -
Dents OK flexible
Dont bend much after 3 hours on
hot plate -
Not good after cooling
from Hot plate - dished
& brittle -

213 E

Off

10 grms Resin req
16 " Alcohol
100 Mlg Pouca
600 " Phenol
500 " Water
950 " 6/4

2 - 3 - 1 - none fine top bubbles
melted light

1 = 1 inch free
2 " "
3 " "
4 Already free

Brake 27

Clamp

027
027.5
026
028
4 | 108.5

Outside hard inside, some brittle Horny
0271

On hot plate, Curls a little Bents OK
flexible — Now after 3 hours —
Very stiff

breaks —

214 E

off

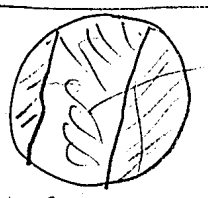
18 grms Reg Resin
16 " alcohol
100 mlg Para
1200 " phenol
1250 " 6/4

1 — 1 — 1 none bubbles

Connected channels — light

1 = Touch, free
2 " "
3 " "

broke 29 —



027
031
027
027

Cuts better horny
hard outside

Ott

215 E

No Resin

10 Resin Reg

10 Grams Phenol

16 Alcohol

100 mlq Pappal

5 Grams Sp

500 ml gram of Water

Cure

Wont work Condensed

gets hot,

216 E

16 alcohol
10 grams Phenol
~~5~~ " Water
5 " 6/4
100 Mlq Para 1

when alcohol added in

Tyndenage of medium of equipment

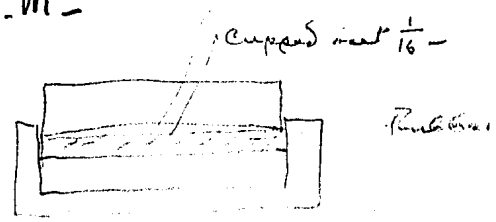
Cured

Hereafter all 1412
Dried 2 Hours after
~~dipping~~ Brushing

Even with a perfect 2000
mesh 1412 blank Run
out, Can Come from
Dipping & this part
of the process must
be Experimented on
to get right Technique
Lampblack 5% ground fine no
specs & Even Calliper ~~[illegible]~~
007 blank its OK

1M means #1 Moores Experts

1.M –



Experiment on Blanks –

75% 12 Transfd good 1 Cooked C
2 Lifts Ckd.

Prints 6 – 1 ckd Margin Cond
3 poor prints on Margin
2 ckd on Margin one affected
is ckd in middle also

RO	Time
1	✓✓✓✓✓✓
2	good |||
3	
4				
5	
6					
None	

Note —

Took 2 plates thick at Edge
Stripped Veneer — it seems to be
Condensed fully but while it
bends fine, the slightest nick
with Knife it Cracks — seems
under strain — when you
want to cut a shaving it
Chips out + cracks whereas
most of the little dense
up to 325 are 3 times
thicker the do not nick and
are not brittle Crack where
the should + give straight
Cracks + not circular or
irregular Cracks

Of Course reg Veneers are
3 times thinner —
The thinner the more brittle

217E

Off

10 Grams Resin —
16 " Absolute Alcohol
same as used by Dunwiddie for dope —
600 mlg Phenol
780 " 6/4
100 " Para

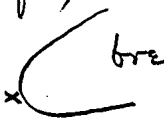
Molded Condensaloc — Cracked in 101

1 — 2 buts top
2 2 1 "
3 1 "
4 1
} micro

1 ± loosh loose
2 Loose
3 Loose
4 Loose

Broke 88 = many pieces mostly straight
Very hard Condensaloc all through
034 broke
028
035
028

On hot plate — stay flat — Dents OK
stiff to flex — after 3 hours on hot



Dont break very straight after
coming off hot plate + cold

On hot plate stays flat
Dents Very stiff —
Cant bend at all — breaks —
Very thick Calliper —
Cant Even dent it —
This is Carrying 6/4 to
non softening point —

Notice Excess 6/4 hard Vars —
Cracks = Evidently under great strain

218 E

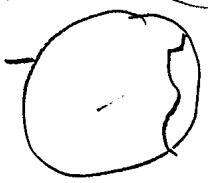
off

10 grams Resin Reg
16. " Alcohol
100 Mlg Para
600 " Phenol.
1560 " 6/4

1 Left - Cracked - free
2 free - no left
3 Loose + Cracked [illegible] no left
2 Micro Bubbs
4 Scraped Edge, Cracked in dozen pieces
1 Very hard Condensed NG

1 Bubble Micro
2 Micro lap

Broke 65 —



0 33
0 37
0 27
0 25 —
4) 122
30.

Dont break strait after Coming
of hot plate + Cold,
dished however

It looks as if Box to cool down gradually was an improvement in stopping Cracks

219E

This was an Experiment to determine if taking transfers out of presses they were cracked by drafts of air —

	Prints —		
Kept in box	79% ok	Records	
" " "	88.4% ok	Transfers	
		69% net Prints	

~~Kept in box~~

Reg way	Prints	65.9	Prints
" "	Transfers	86.6	Transfers

'Another Test 57% Net Records

Kept in box	71%	Records
"	88.7	Transfers
		62.9% Records
Reg way	71.6%	Records
	79.7	Transfers
		57% net records

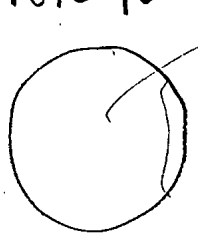
Box 69.5% } net Records
Reg 57.0% }

220 -

Moore to Dup 219 E
in Large quantity

Went O.K. + flexible – want to curl. So family flat went good & very flexible

Broke 43 —



0.24
029
030
026

4 | 109
27.2

This seems good – on this schedule in fact only one that was not loose!!

probably 100 para even better

broke – on hot plate 3 hours

Cold – I broke in several places dont break very strength its dished considerable

221

10 grams Reg resin
16 " alcohol
800 Mlg Water
150 " Para
650 " 6/4
600 " free Phenol

Little Modified

1 – 6 Micro
2 20 very Micro
3 1 .005 15 very Microscopic
4 5 to 10 10 " "

Cannot get them off

Put on hot plate – Corners off open rims curled & they left – only little only 1 bellied a little –

1 – 6 bubbles .005 – Hot plate 285 –
2 only Micro
3 6 "
4 Several "
ok for tubes –

They took about the schedule for Reg work –

Very hard Condensed both sides no horney

On hot plate – stays flat
Dents OK – fairly flexible

Not very } breaks after 3
hours on hot plate

After hot plate + Cold
breaks straight –

Pretty good

222 E

Ott

10 grams Reg Resin
16 " Alcohol
800 Milg Water
200 " Para
650 " 6/4
600 " Phenol

only little Molded –

1 = 2 + 15 micro 2 are 010
2 2 010 10 micro
3 1 untraken 4 1g 3 of 010 some fine micro
4 4 010 several micro –

Free - Curled a little
" " slight
" " Little
" flat

Broke 65 broke 5 pieces mostly straight
Very hard Condensed

028
034
029
027
4 lbs 29.5

On hot plate — stays flat
Dents OK fairly flexible
hot dont break
8 hours on hot plate

after hot plate & Cold
breaks straight, several
breaks —

Looks good Var

295° is Temp of
Hot plate,

When these numbers
were done
211 to 228

223 E

ott

100 grms	reg	Resin
16 "		Alcohol
800 ml		Water
250 "		Pura
650 "		G/4
600 "		Alcohol

1 = 3 bubs 1 040 - 2 of 030 -
2 10 of 005
3 1 of 010 10 of micro
4 2 of 020 5 "

1 free Curled
2 " Curled little
3 " almost flat
4 " Touch free

Broke 80 in several pieces mostly strix

Condensed Rey hard

032
028
027
023

4 | 110
27.5

Must be pure

On hot plate – stays flat
Dents OK fairly flexible
dont break hot plate
after 3 hours

9 Broke it in several pieces after
taking off hot plate +, when cold
Each break is straight

224E

OK

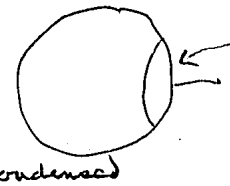
100 grms Reg Resin
16 " Alcohol
800 Mlg Water
300 " Pearl
650 " 6/4
600 " Glycerol

Some Mottled, some Gad M

1 = 2 of 005
2 micro
3 1 of 020
4 4 of 020

1 – Curled when I scraped Edge
2 free Curled a little
3 Touch free – small Edge left
4 free – Curled Little

Broke 25.

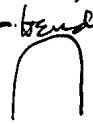


Hard Condensed
dif Cut not so sharp

025
034
022
031

4 | 112
28

Out Hot plate tends to dish up a little: only a little,
Dents OK Stiff — bends



hot after 3 hours

Very good-Very
Cold & broke one from hot plate, breaks easily almost

225E.

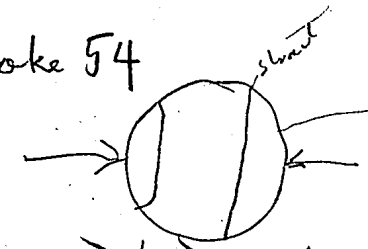
Ott

10 grams Reg Resin
16 " Alcohol
200 Mlg Para
650 " 6/4
600 " phenol

1 = 2 of .020 round mirror
2 1 of 1/8 peculiar fan mirror
3 - 2 of .005 3 mirror
4 2 of .005 1 mirror

1 = free no lifts
2 " " Curled a little
3 a touch free
4 Sticks

Broke 54



031
033
036
Sly

Condensed hard - not sharp

3/100
28

Note -

Veneer stripped from a Reg plate if left on hot plate 2 days no longer Ruffles

its Brittle at hot plate temperature

Perhaps it keeps hardening after pressing and Continually Continuously until Reaches Cracks

This leads to theory that should use Minimum 6/4 + harden up as far as we can transfer or prevent a bake

226 E

ott

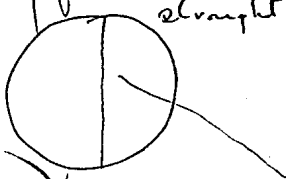
100 grms	Reg Resin	
16 "	alcohol	
250 mlg	Para	
650 "	6/4	
600 "	alcohol	

Mallet shavings

1 - 12 micro
2 10 "
3 2 of .005"
4 10 micro 1 flat .030 - not Broke -

1 = free Curled a little
2 " " at Edges 1/4"
3 Touch free — it drew away from Edges
4 free nearly flat

Broke 42



.028
.026
.025
.024
163
36

Strong Condensed
Curl sharp hard

on hot plate - didnt Curl Hot plate 285 to 300 made in Contact with plate - only a little flexible dents Enough after 3 hours stiff
off hot plate breaks fairly sinist x breaks nearly

On hot plate stays flat
Dents but hard + stiff
dont break on
hot plate 3 hours

Pretty good Varnish

227 E

ott

10 grms Reg resin
16 " alcohol
150 Mlg Para
650 " 6/4
600 " alcohol

1 = Micro
2 "
3 "
4 "

1 = free Curled one edge 1/4
2 " " unequal 1/4
3 " " "
4 touch — bass lifts —

Broke 77 5 pieces fairly straight
Condensed hard sharp cut —

025
024
022
020

4 | 91
23

228E

Put the 2 Carb Magnesia —

216 was left out of 228 batch
put it in next batch —

1=Lifts bad face from bottom
2 with Epsom Mg sticker

MG

228 1/2 E

10 grams C.P Resin – Soda process
16 " Alcohol
100 milg Para
250 " 6/4

All raised – 1 has 2 cracks in another big crack
Raises are round, 1/2 to 5/4 dia very little
raised above level Bubbles around the
Edges – some bubbles other place –

Not condensed at all. Brittle Resin –
Cant get a sign of horny cut,
Scratches with finger nail

Sticks tight to plate, except at a lift

Hot plate 2 hours on slight

Condensed trouble – Cked, brittle

229E

new lot –

10 grms C.P Resin Soda process
16 " Alcohol
100 milg Para
300 " 6/4

2 has 5/8 raises only shade above general level.

Its only Resin shows no condensation
only few bubbles – Cracks –
sticks tight to plate
Very wrinkled

The raises is condensed some by the
higher heat Cut horny brittle,
Might work for transfer doubtful

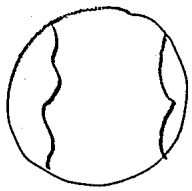
230 E

10 grams CP Resin Sacha Inchi
16 " Alcohol
100 Mlg Para
350 " 6/4

3 have raises — 1 ok - shows signs of
Condensing Very brittle horny - chips out
Very Worthless

Couple bubs

Hot plate 1 hours. touch it
" Comes free flat,
Broke 62 nearly straight 4 pieces

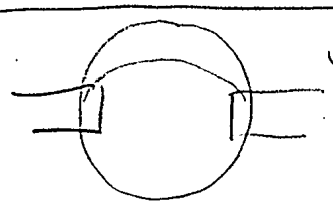


This will work
on Transfers —

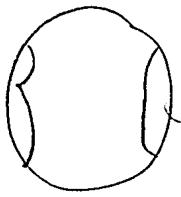
231 E

10 grams CP Resin, Soda process
16 " Acetal
100 Milg Para
400 " 6/4

3 have blisters - Shows fair condensation
horny cut but friable - Very wrinkled
2 or 3 bubs



After Heat platen,
2 hours



Broke 60

024

Soft Cut horny showing - Condensed
OK will transfer
Lifts are bad -

232E

10 grams CP Resin, Soda process
1.6 " Alcohol
100 Milg Para
425 " 6/4

---

2 Raised 6 bubs – v
5 " 6 micro
6 micro
5 micro quite wrinkled

Horny fraible Cut–

233 E

10 grms CP Resin Soda process
16 " Alcohol
100 milg Para
450 " 6/4

14 bag on 4 plates 2 have left somewhat mottled
The left is condensed or cuts semi horny + some granular – The other parts stick to plates & dont appear condensed cuts like Resin –
Can it be possible Oxygen is necessary or air to carry off the alcohol or Water before it will condense

After Hot plate

234 E

10 grams CP Resin Soda pressure
16 " Alcohol
100 mlg Para
475 " 6/4

All 4 free — 1 had a raise 7 big 6 micro
Condensed — Cute hard horny good, not
fraible —
This is good one

Very small wrinkled -

Broke at 77 Calliper of broken one 028
others 034
029
027

After Hot Plate -

235E

10 grams CP Resin – Soda process
16 " Alcohol
100 mlg Paira
500 " 6/4

4 free 2 had previous lifts 3/4 of whole
only 2 big bubs on all – few micro
Scarcely any mottled.
Condensed hard horny good cut, less in thin
more horny in thick but ok. The big lifts
bulge up about level with those that
had no previous lifts –
good Van –

Broke 64 – broken Calliper – 027
several pieces strait 024
036
030

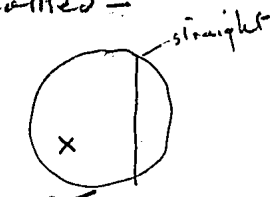
~~Bad Transfer~~

Note

236 E

10 grams CP Resin – Soda process
16 " Alcohol
100 mlg Paria
525 " 6/4

All free 1 had sectional lifts –
12 Very large bubbles 7 are to do.
Very little mottled –



Broke – 39

Tried x again 85 ? –
Cut hard semi horny
+ ok

033 Broke
032
027
037

237 E

10 grms CP Resin — Soda process
16 " Alcohol
100 mlg. Para
550 " 6/4

All fresh 4 ozs bubs on all —
1 has previous sectional lift —
very little marked
Broke 55 — — Calliper 034
Cut hard not sharp — 026
024
033

"

238E

10 Grams CP Rum – Soda Procaine
1.6 " alcohol
100 Mlg Para
575 " 6/4

All free all curled 1/8"
6 $\frac{1}{16}$ bubbles several more
very little melted

Broke 43 – hard sharp cut

.025
.034
.026
.26

239 E

10 Grams CP Resin – Soda process
16 " Alcohol
100 Miligms Para
600 " 6/4

All force, lifted long ago plates discolored
Curled 18 1/16 blades – Very bad –
Little Mottled –

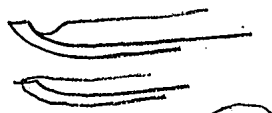
Broke 54 Straight – 3 pieces
Cuts hard & sharp –

028
027
032
034

240F

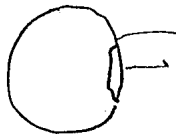
10 grams CP Resin-Soda Process
16 " Alcohol
100 Milg Para
500 " 6/4
500 " glycerine Thick

4 all free 1 only has edge curl. 3 bubs 020
They are dished up like lenses. They have shrunk away from edge. — The glycerine keeps Varnish from going over Edge of plate.
appears thus



not

Broke 68.



028
039
030
029

4) 126
31.5

Tried again 95
Hard soft Cut good

241 E

10 grams C P Resin - Soda process
16 " Alcohol
100 mlg Para
500 " 6/4.
1 gram glycerine -

All 4 free 3 Curled Bad

Shrunk in eye more than 240

Small mouth 6 - 020 bubs no mucus

Broke - 68 3 pieces

032
033
033
039
137

Hard soft Cut tough, tender, but all perfectly Condensed - good -

4 | 137
34.2

242 E

100 grms C P Resin – Soda Process
16 " Alcohol
100 mlg Para
500 " 4 } 6/4
300 " Ferric Chloride Anhydrous

All free & flat – Spongy – too much $FeCl_3$
Broke 15 – Cuts hard NG

243 E

10 grams CP Resin — Soda process
16 " Alcohol
100 Mlg Para
500 " 6/4
300 " Ferricyan Potash — Red

All free — 3 Curled 12 $\frac{1}{16}$ bubs
internal Checks on one
only little mottled

Broke 42 Straits 4 pieces
Cut hard but soft —

031
035
031
025 —

244 E

10 grms CP Resin Soda process
16 " alcohol
100 mlg Pura
500 " 6/4
300 " Chromic acid

2 free 2 slick - lifts on 3 -
darker red some matte 4 - 015" tube

Broke 52 3 pieces strength

Cuts little horny trouble, but not much

.035
.033

no abrasion like glycerine

245E

10 grms CP Resin — Soda process
16 " Alcohol
100 milg Paraa
500 " 6/4
300 " Potmanganate Potash

3 free 1 thick rather flat.
8 020 bubbs —
Small matted —

Broke 81 many irregular pieces

Soft hard tought chip good —

033
027
028

246E

10 grams CP Resin - Sodapaper
16 " Alcohol
100 mlg Para
500 " 6/4
500 " Epichlorohydrin

Out

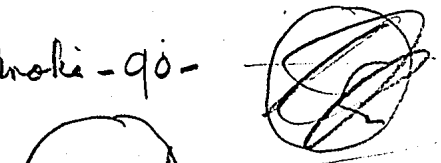
" get some Epichlorohydrin

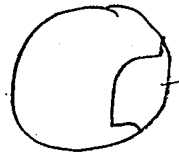
247 E

10 grms CP Resin – Soda Process
16 " Alcohol
100 – Mlq Para
500 " 6/4 "
2 grams Glycerine

All 4 free 2 are perfectly flat
didnt dish out the least.
1 is Very bad Curl its a thin one
1 is dished up usual amount
2 stuck to rim like the usual Disc
6 010 bubbles 1 has none

Broke – 90 –





027
025
027
Cuts horny Tough 79
26.3

Looks good

248E

10 grms CP Resin – Soda Proaan
16 " alcohol
100 milg Para
500 " 6/4
250 " glycerine –

4 free 2 had previous lifts –
shrunk a little 5, 015 bubbs –
Little Mottled – Looks good

Broke – 83. 5 pieces – unequal

Hard – soft tough chip cut fully Condensed

good – think 400 to 500 glycerin best

.025
.024
.027
.030
4) 1.06
26.5

249E

10 grms CR Resin - Sandarac
12 " Alcohol
4 " Water
100 mlg Para
500 " 6/4
500 " Gelatin

out

250 E

10 grms CP Resin – Soda process
16 " Alcohol
100 mlg Para
500 " 6/4
300 " Castor Oil –

All free – Considerably melted –
5 020 bubbles –

Milky

Broke 45 – Straight

Hard Cut little sharp chip not bought

0 28
0 25
0 31
0 24

251 E

10 Grams CP Resin Soda process
16 " Alcohol
100 Milg Para

Nothing else

All Cooked + Cracked

Granule powder on cutting

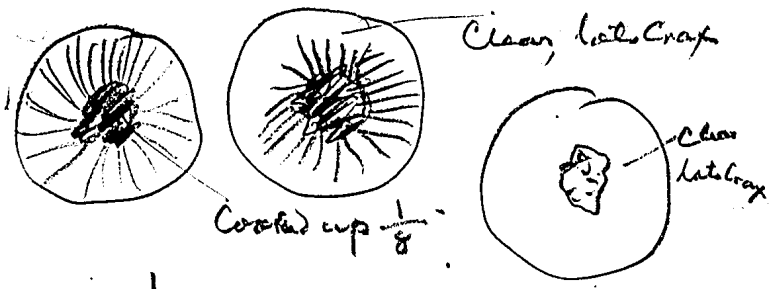
252 E

10 grams Regular Resin –

16 " Alcohol
100 Mlg Parva

Nothing Else

All Cooked + radial lines
towards Center



trouble powder
on Cutting

Done To Here

253.E

10 grams Regular Rosin

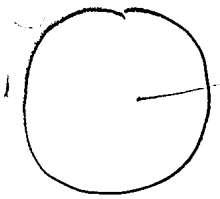
16 " Alcohol

100 Milg Pavia

600 " Phenol.

Nothing Else

trouble



One mass of Wrinkles big — with place Cooked up $\frac{1}{4}$ in Center a Cracked

Get a Measuring Machine to measure out the right amount of Varnish for Each Disc —

254E Soak some of the
Condensed Veneers in alcohol for
3 or 4 days = Those that are
free on the plate

Weigh them before Soaking

On Soak Monday 3 pm 1

All fully Condensed — Had These been baked slower at 1st + then put in oven + rebaked slow all would have left plates + been OK

5 = not free or raised

6 raised shadow not lifted — not free

1 1/4 X 3/4 at Edge

7 not raised not free OK

8 Raised up 3/4" in at 3 places near Edge

9 not raised OK not free

10 not " OK not free

The 2 top ones got most air + Evidently something Evaporated + surface got condensed too hard + quick + cracked + lifted — dont understand # 2 which was worse — all the others pretty good

Note = hardly dent rare not soft on hot plate dent hard any little than cool — This shows to much 6/4 in our Vent

No 2 Cage.

1 raised at Edge 5" long 7/8" in

2 OK not free

3 very slight Edge raise but 1/2 the Venee free —

4 Raised Edge 2 1/2 dia 1 1/2 deep - Venee underneath fell

5 OK not free

6 all broken Chump put 2 plates together

7 all Cracked

8 - lift + crack from Edge + Center

9 Raised up spot + Cracked

10 all cracked

Bottom & Top burnt

255 E — This is also 174 E + 175 E

Put one ~~Block~~ Two burd cages full of plates in gas oven The plates having already been baked in our Reg oven Run in 6 hours to 325° Fahr When 250 take 5 out 275 5 more — at 300 take out 5 more + leave the others in to go to 325° Fahr

in

st Top Cage

1 - dia shrunk 3/8 in dia Cracked in Center - free

Can feel outside lamina

No 2 - free Cracked in all direction + Each piece ∩ bowed up

3 OK not ckd or raised

4 raised at Edge 3" long 1" in ~~Expan~~ plates little warm

All are very flexible bend a great deal + not brittle like they were first

256 (

10 grams CP Resin Soda process
16 " Alcohol
100 mlg Para
500 " 6/4
200 " Dichlorohydrin alpha

19 015 bubbles on the 4L
20 one are free — some mottled

257E

10 grams CP Resin - Sample
16 " alcohol
100 mlg Para
500 " 6/4
400 " Dichlorohydrin alpha

3 has nonwetting - 1 has 4 020

1 has every corner stuck
1 dense + free 2 stuck.

258 E

10 grams CP Resin – Sodaprocess
16 " Alcohol
100 mlg Para
500 " 6/4
800 " Dichlorohydrin alpha

On all 5 010 bulbs
2 lifted 1 nearly fused
2 stuck – Dichlo not promising

259 E

10 grams CP Resin - back press
16 " Alcohol
100 Mily Power
500 " 6/4
200 " Monochloro-hydrin 80%

2 or 3 large bubs on all

All stuck light.

360 E

10 grms CP Rum - Acetaprocin
16 " dl Cachol
100 Milg Pacin.
500 " 6/4 80%
400 " Monochlorophydrin

2nd Lifts -

With considerable lunch
all gone only few bubs
good in that department
cute horny brilliant

~~Good Hibernation~~

Done to Here

261 E

10 grams CP Resin - Soda process
16 " Alcohol
100 Mily Pura
500 " 6/4 80%
800 " Monochlorophenol

All free - 2 hard lifts - 6 or 7
bubbles Each - 10 minutes
Commercial - Cut Little
brittle

~~Not~~ Monochlorophenol

not necessary

262 E

10 grams C.P. Resin - Dodecyl
16 " Alcohol
100 mlg Para
500 " 6/4
200 " Epichlorohydrin

263 E

10 grains CP Resin – Podophyllum
16 " Alcohol
100 milligrams
500 " Talc
400 " Epichlorohydrin

264 E

10 grms CP Resin Sodapress
16 " Alcohol
100 mlg Para
500 " 5/4
800 " Epichlorohydrin

265 E

10 grams CP Resin Soda pracar
16 " Alcohol
100 mlg Para
500 " 6/4
200 " Dry Calcium Chloride

266 E

10 grms CP Resin Scalapreum
16 " Alcohol
100 mlg Para
500 " 6/4
400 " Dry Chloride Calcium

267 F

10 grms CP Resin - Sacca pre[illegible]
16 " alcohol
100 mlq Pera
500 " 6/4
800 " Dry Chloride Calamus

268 F

10 Grams CP Resin - Soka Prem
16 " Alcohol
100 Milg Paraca
600 " 6/4
200 " Chloride Zinc Solid

269 E

100 gms C.P. Resin - Soap
16 " Alcohol
100 Mlg Resorc
500 " 6/4
400 " Dry Chloride Zinc

270 E

10 grams OP Resin - OP -
16 " Alcohol
100 mlq Para
500 " 6/4
800 " Dry Solid Chloride Zinc

Seems to be condensed ok

271 E

Put baked plates one in

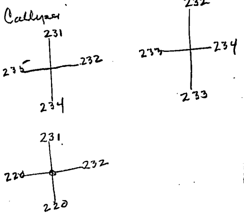
Wash with alcohol in short while Cracked put in at 330 pm at 820 look it out as it had nearly all become free of plate +

Put another in same alcohol at 825 pm —

RO Fine |||||||||||||

1
2 good
3
4 none printed at Edge
5
6 ||||| |||
none |||||

Callipers



full checks 100 or more in Var in reverse

Moore XX

1412 = Even Calliper not over .010 out parallel

Sprayed blank using 5% Lampblack good ground Sprayed at S Bat Co -

Transfer 12 — 8 OK 1 Thin Margin 3 Margin Cracks —

6 Prints 2 poor prnt 2 poor prnts Comp 2 OK —

Moore – Expand Dup of XX

1412 Even Calliper within .014
Inspected 12 6 OK 1 Cracked Center
5 lifts Crowned –

Prints 6 – 3 OK 2 Clad Margin –
1 poor print

RO Fine ||||||||||
1
2 good |||
3
4
5
6 ~~||||~~ ||
now ~~||||~~

Moore 3 — Welds good where felled

Sprayed 1412 blanks —
not even Calliper —
Transfers 24 — 22 OK 3 marqu Cracks
squeeze out Cks — Sprayed 5% Camp & Cracks
& Backing —

Printed — 8 OK 9 Ck marqu Discards
5 poor print Dis — 2 Cancel —
All new tracked blank Moulds

RO Fine
1 good
2
3
4 —
5
6
Now

16 Very fine
8 V Very fine
17 plain fine
7 good

22 no RO
14 just heavy
5 plain RO
7 Loud RO — No 1 is 3 times worse
#4 due to uneven blanks

[ITEM(S) FOUND IN BOOK]

16% Resin No free phenol 5½ 6/4

159 Req 16% Resin. 100 Benzol Sandrac 5,50 6/4 100 parts
018 will condense bends fine, comp of by knife under run 1 plate no bubbles
160 dutto 400 Benz Sandrac 1 plate no bubbles
Comes off plates with knife but harder than 159
161 – 800 Benzol Sand where even fully (cooked), leaves plate
when under run knife – Some bubbles on every plate
shows it had lifts but went back

100 Benzol Sandrac probably best
Not fast

[ITEM(S) FOUND IN BOOK]

16% Resin 6 free phenol

This is Regular 100 Para 100 Benzosandra.

8. 6/4 no lift hard to get off plate will transfer
OK Condensed Cuts hard on thickest part - bubbles

7.8 - 6/4 Even - 1/8" blister, dark - All leaves
plate by a slight jar One veneer lifted up
+ Curled has some bubbles - fairly strong
Condensed nearly if not fully

7.5 All free from plate 1 Curled up one Edge
1 1/8 blister - Some bubbles 1 plate none
dont bend much - Curled one shows no
sectional lift - fully Condensed

7.25 All loose from plate 1 Curled no sign
of a sectional lift. - 1 showed a lift but now flat

7. 6/4 No bubbles - signs of 2 sectional lifts in one
plate now flat. Slight jar with 4 raw plates
they are free Medial very hard jar -

6.75 No bubbles - not free but can get off nearly OK
with knife will transfer OK - bend pretty much
flexible 1 at thickest is nearly OK on thickest
part Good Varnish - with this schedule

[ITEM(S) FOUND IN BOOK]

1230

1am -

~~IIII~~ ~~IIII~~ ~~IIII~~ II

6.50, Sandrace		190	.7044
6.25 "	"	191	9033
6.00 "		192	.8008
5.75 "	piece cant sway	193	.7022
5.50 "		194	8026
5.25 "		195	.7083
5.00 "		196	1.009 nearly flat
4.75 "		197	.7030
6.15 - Sero Mfg Co		204	8059
6.75 no paralor Sandrace		202	7068

[ITEM(S) FOUND IN BOOK]

16% Resin 5½ 6/4

200 Insol Sandrac - Cant strip

800 Insol " Blistering - comes loose by jarring -

3,000, Lifts + bubbles not condensed brittle none free from plate N G

[ITEM(S) FOUND IN BOOK]

No Raises – above 475 6/4
All slick below 500 6/4
Bubbles few 575 6/4 to 650
All free of plate above 500 6/4

Condensed 500 525
not Condensed 550 575 600 625
fully Condensed 650 + 475 none of the other

Horney 600 · 625 575

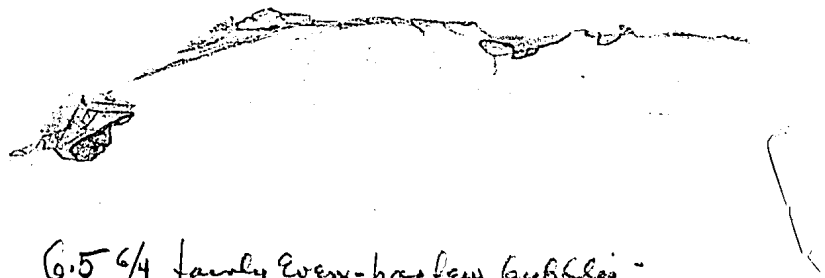
not Horny 650

Brake		Calliper
500	63	031
525	60	034
550	43	030
575	50	037
600	35	031
625	102	034
650	40	

[ITEM(S) FOUND IN BOOK]

650	6/4	1.479 %
625	"	4.07 %
600	"	4.24 %
575	"	4.9 %
550	"	wrong weighing — ?
525	"	[illegible] ?
500		1.96 ?
475		1.6 %
675 no [illegible]		1.5

[ITEM(S) FOUND IN BOOK]



6.5 6/4 family Even - has few bubbles -
hard to strip off got 3/4 of a varnish showing it
will transfer good - not quite fully condensed
in thick part - Think this is <u>good</u> varnish

[ITEM(S) FOUND IN BOOK]

211-to 2

1.30	Cold	1st oven	2nd oven
2 pm	100°	100	101
2.40	120	119	118
3 20	125	123	124
4 20	130	130	130
5 20	135	135	134
6 30	140	139	140
7 50	145	145	145
9 20	150	150	151
11 00	155	154	155
1.30	160	158	160
2 50	165	164	165
3 50	170	170	169
4.40	175	172	175
5 20	180	178	180
6 00	185	185	184
6 30	190	190	190
7 00	195	195	195
7 30	200	200	200
30 min to reach		215	217
30 min more "		225	224
30 " "		235	236

[ITEM(S) FOUND IN BOOK]

6/4	Para	Free Phenol	Water	XYZ	Average Caliper	Stuck or 1000a	Cuts	Hot Plate Curl or Flat	Flexibility	Dent	Broke	Broke in pieces	Broke Strait or Ck	Bubs Big	Bubs Micro	Flex hot	
780	1%	600	4.000	Reg Resin	0253	Free	horny	Curls	Stiff	OK	30	3	about Strait	—	21		212
780	1%	600	3.000	"	025	Free	horny	Curls	Stiff	OK	43	—	no	—	9	Dont break	211
950	1%	600	0.600	"	0271	Free	horny-brittle	Flat-	Stiff	OK	27	3	yes	—	6	only little	213
1250	1%	1200	—	"	028	Free	horny-brittle	Curls	Stiff very	OK	29	3	yes	—	3	very stiff	214
780	1%	600	—	Absolute Alcohol	0312	Free	Hard	flat	Stiff	OK	88	Several	yes	—	6	breaks	217
1560	1%	600	—	"	030	Ckd Free NG	Very Hard	flat	Very Stiff	No	65	1	Zig-Zag	—	—		218
650	1½%	600	.800	"	0272	Stuck	Hard	Curl	—	yes	43	—	—	6 or	several	Very	221
650	2%	600	.800	"	0295	Free	Very Hard	flat	—	OK	65	5	Strait	11	25	fairly	222
650	2½%	600	.800	"	0275	Free	Very Hard	flat	Stiff	OK	80	Several	Strait	28	15	fairly dont break	223
650	3%	600	.800	"	028	Free	Hard	flat	fair	OK	25	2	fairly strait	7	some	fairly Free	224
650	2%	600	—	"	033	Free	Hard	Curls	fair	OK	54	2	Strait	7	6	fair	225
650	2½%	600	—	"	026	Free	Cut sharp Very Hard	flat	no	hard	42	2	perfect strait	4	34	Very stiff	226
650	1½%	600	—	"	023	Free	Cut sharp Very Hard	flat	great	OK	77	5	fairly Strait	—	Microv	good hard	227
650	1%	600	1% Sande	"	—	Free	Hard	Curls	great	Easy	after hot 90 40		Strait	none	none		190
625	1%	600	1% Sande	"	034 029	Free	Horny	Curls	great	Easy	after hot 90 102			none	none		191
600	1%	600	1% "	"	031	Free	Horny	C nrylitte		OK	After hot 60 35 + 50			none	none		192
575	1%	600	1% "	"	037	2 free 2 Stuck	Horney	—		OK	50 -	3	Strait	none	7		193
550	1%	600	1% "	"	030	Free	Horney	Curls		OK	after hot 77 43	dozen	Strait	5	none		194
525	1%	600	1% "	"	034	Free	fairly Hard	Slightly		OK	after hot 55 60						195
500	1%	600	1% "	"	031	Free	fairly Hard	Slightly		OK	after hot 53 63		nearly Strait	2	6	—	196
475	1%	600	1% "	"	028	Semi Stuck	Hard	bad			after hot 20, 50			3	2	—	197
450	1%	600	1% "	"	—	Stuck	Hard	—	—	—	—	—	—	4	6	left	198

[ITEM(S) FOUND IN BOOK]

6/4	Para	Free Phenol	Water Etc	Resin	Calliper	Stuck or Loose	Cut	Hot Plate Curb	Flex	Dent	Broke	Pieces	Broke Strait	Big Bubs	Mesas	Hot Flex		Wrinkles	Number
425	1%	600	1% Sande	Reg	—	Stuck								9	4			V Bad	199
400	1%	600	1% "	"		Stuck								8	1			V Bad	200
675	1%	600	no Sande	"	035	1 free Stuck	Condemned				45		nearly		6	Very		Moderate	201
675	None	600	" "	"	—	Stucks Lifts		a Little			after hot 77	3	nearly	11	—			Bad Small	202
650	1%	600	.800 Water) 1% Sand	"	after hot 023	2 Stuck 2 free	Hard	a Little			afterhot 45 67	2		1	5	ok		"	204
650	1%	600	1% Sand 1200 Water	"		1 free 3 Stuck	Horny	—			before 30	2	Strait	lifts	2	x		Some	205
650	1%	600	1% Sand 2 gms Water	"	031	Stuck	Hard				before hot 30	3	Slead chrait	lifts	8	x			206